Hossein Ruhi - Re: Fwd: Water leakon Solidad mt.rd

From:

Jim Fisher

To:

Alex Ruiz; Hossein Ruhi; Jim Barrett; Rob Hawk

Date:

August 10, 2007 1:47 PM

Subject:

Re: Fwd: Water leakon Solidad mt.rd

CC:

Johnny Mitchell; Patti Boekamp; Stan Medina

All, We have already given the direction to our field crews that any reported water leaks in the vicinity of 5700 block of Soledad Mtn Rd, need to be address immediately. Jim

>>> Rob Hawk 8/10/2007 1:43 PM >>>

To All:

I visited the site this morning based on several calls from residents. The water service line pulled the corp from the AC main, causing the leak. In addition, another gas line nearby failed last night. Based on my observations, I do not believe that a threatening life or safety condition exists at this time. However, the temporal pattern of events and some of the distress features to improvements indicate that we need to be concerned about adding water to the subsurface in this area. I recommend any reported water leaks on Soledad Mountain Road or Desert View Drive receive high priority for repair.

I understand that Hossein will arrange a meeting next week with you that should include the Water Department advisory attorney. If you have any questions, please call. My cell is 619-980-7161.

Rob Hawk

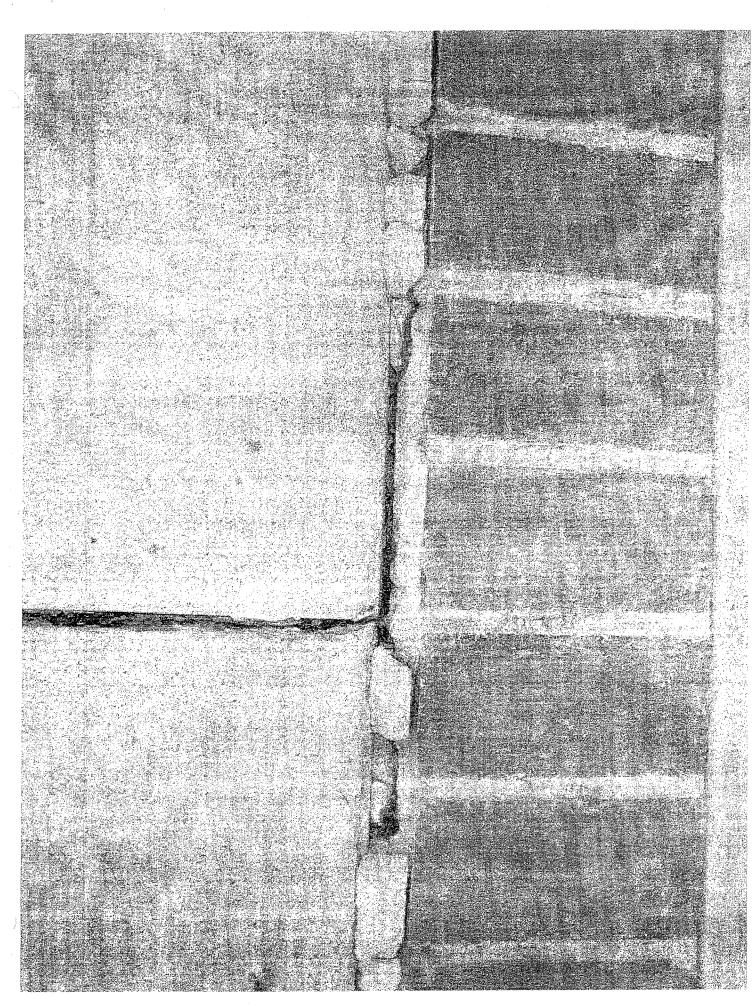
Robert N. Hawk, PE Senior Engineering Geologist/Deputy City Engineer City of San Diego, Engineering and Capital Projects Field Engineering Division, MS 18 9485 Aero Drive San Diego, CA 92123 (858) 573-5011 (858) 627-3297 (Fax) rhawk@sandiego.gov

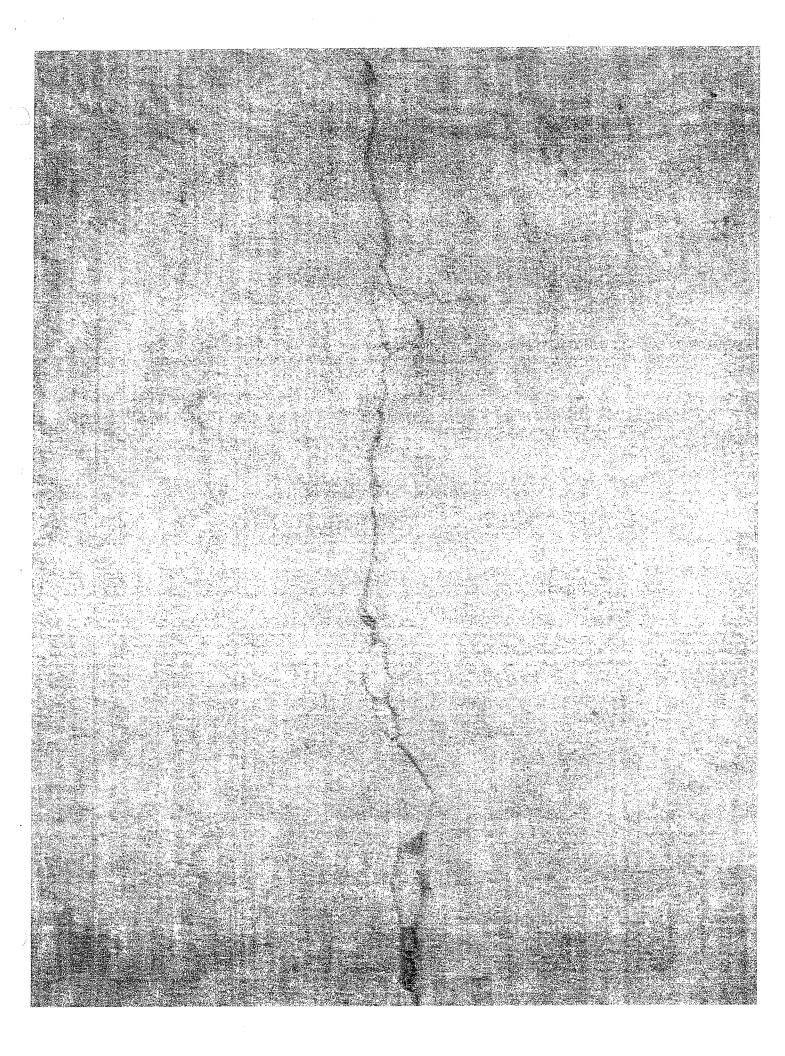
Working Together to Engineer a Better Tomorrow

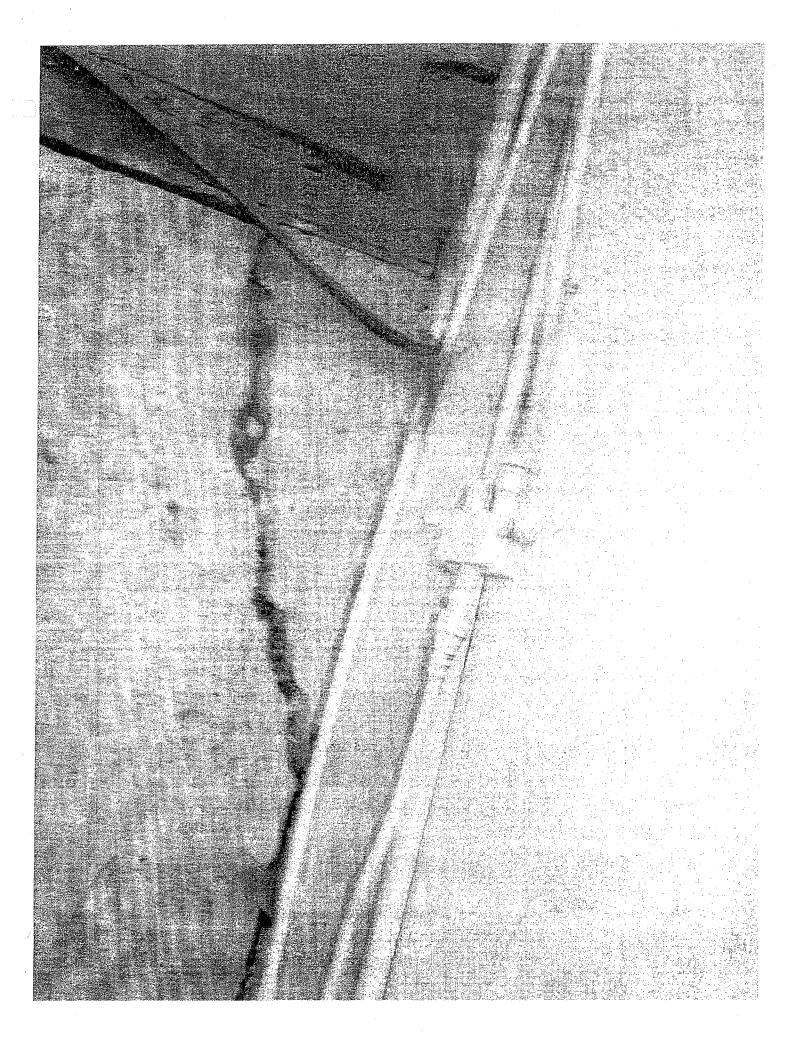
>>> Hossein Ruhi 8/10/07 8:38 AM >>> FYI.

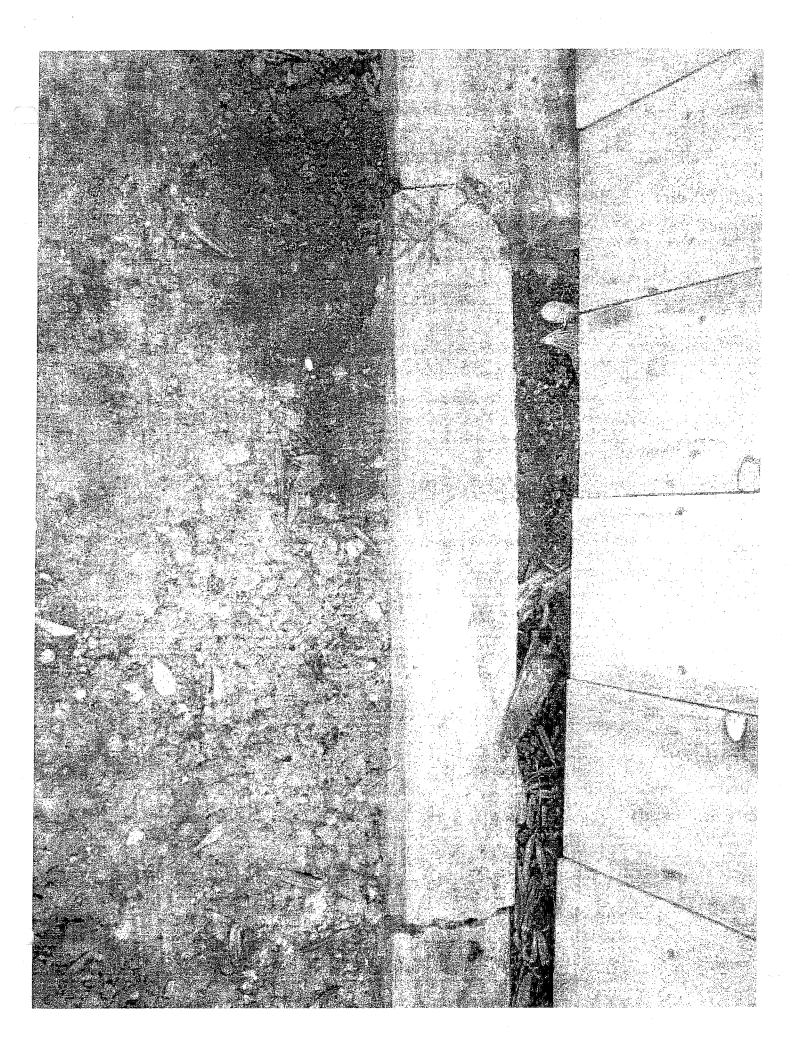
>>> Hossein Ruhi 08/10/2007 8:35:15 AM >>>

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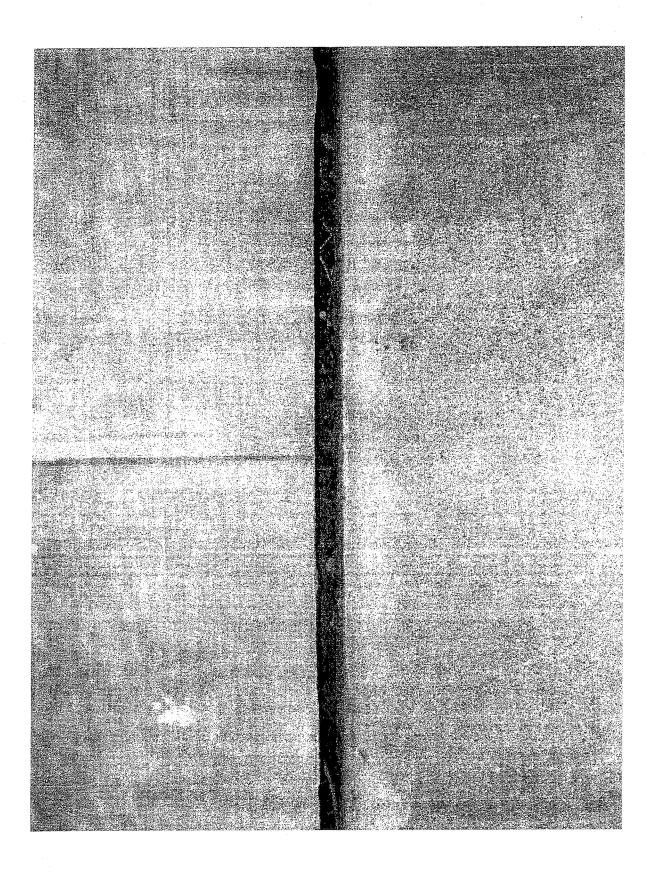


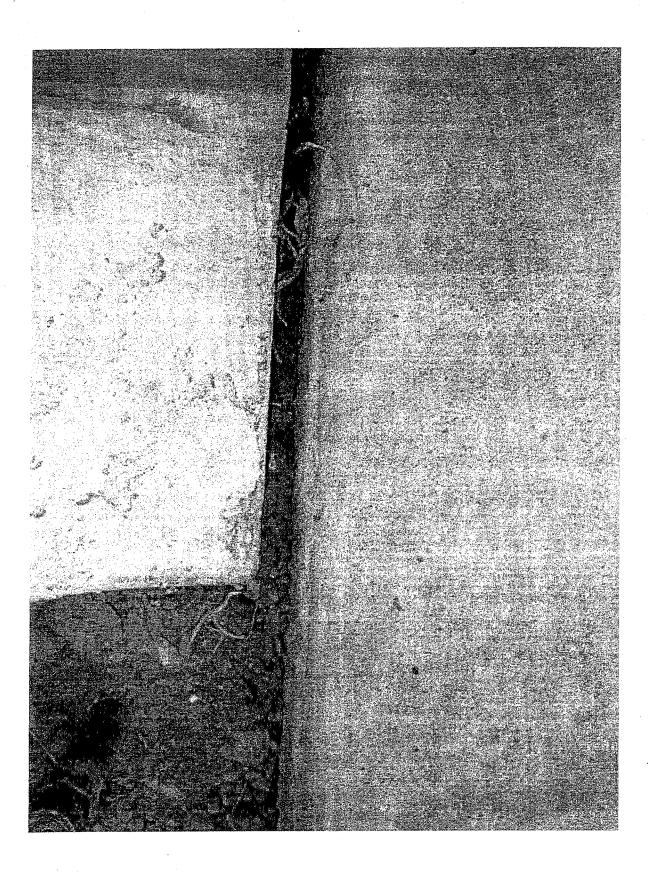


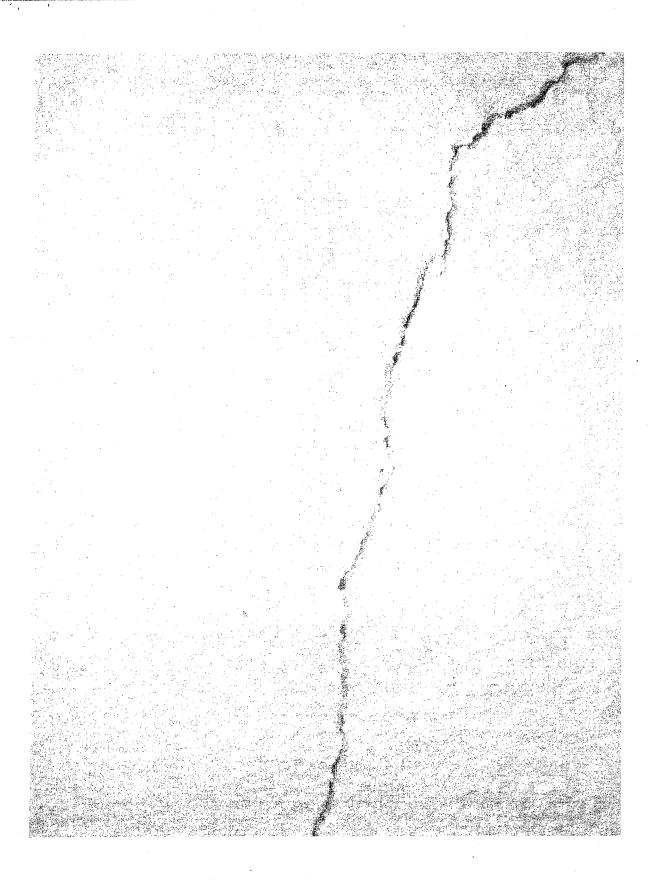












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Jim Barrett - Re: Fwd: Water leakon Solidad mt.rd

From:

Jim Barrett

To:

Haas, Richard; Jarrell, David

Date:

8/10/2007 4:05 PM

Subject: Re: Fwd: Water leakon Solidad mt.rd

Rich/Dave - FYI... soil and slope stability problems within the La Jolla hills continue to challenge our system integrity. jim

Jim Barrett, P.E. Director, Water Department City of San Diego 600 "B" Street, Suite 1300, MS 913 San Diego, CA 92101-4588 O: 619.533.7555 F: 619.533.7593 ibarrett@sandiego.gov

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Rob Hawk

Robert N. Hawk, PE Senior Engineering Geologist/Deputy City Engineer City of San Diego, Engineering and Capital Projects Field Engineering Division, MS 18 9485 Aero Drive San Diego, CA 92123 (858) 573-5011 (858) 627-3297 (Fax) rhawk@sandiego.gov

Working Together to Engineer a Better Tomorrow

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From:

Jim Barrett

To:

Fisher, Jim; Medina, Stan

Date:

8/13/2007 1:33:35 PM

Subject:

Re: Fwd: Water leak on Soledad Mt. Rd

Perfect... thanks Stan. jim

Jim Barrett, P.E.
Director, Water Department
City of San Diego
600 "B" Street, Suite 1300, MS 913
San Diego, CA 92101-4588
O: 619.533.7555
F: 619.533.7593
jbarrett@sandiego.gov

>>> Stan Medina 8/13/2007 1:31:10 PM >>>

Jim,

FYI: Due to the last three incidents on the 5700 block of Soledad Mt. Rd. I've asked Mike Basom to have the entire 5700 block tested for leaks. He stated he could start as soon as tomorrow.

Thanks Stan Medina

>>> Jim Fisher 8/13/2007 12:13:54 PM >>>

Jim, This was a crack on the main and it was repaired last Friday. Jim

>>> Jim Barrett 8/13/2007 11:22:20 AM >>> Jim/Stan - FYI... info from the darker side. jim

Jim Barrett, P.E.
Director, Water Department
City of San Diego
600 "B" Street, Suite 1300, MS 913
San Diego, CA 92101-4588
O: 619.533.7555
F: 619.533.7593
jbarrett@sandiego.gov

>>> Christopher Toth 8/13/2007 10:49 AM >>>

for info. thanks, Chris

CC:

Ruiz, Alex

4730 Noyes Street #402, San Diego, CA 92109 Tel: 619-813-8462, Fax: 858-273-1652 Email: martinowen@geotechengineer.com

> Job No. 070810 August 14, 2007

Mr. Brian Burke 5725 Soledad Mountain Road La Jolla, CA 92037

Subject:

Geotechnical Inspection of Residence

5725 Soledad Mountain Road

La Jolla, CA 92037

Dear Mr. Burke:

In accordance with your request, the undersigned has performed a geotechnical inspection of the subject residence. My inspection was performed on August 10, 2007. The purpose of the inspection was to evaluate reported building damage.

SITE CONDITIONS

The property is located in La Jolla, California, at the location shown on the following Vicinity Map. For the purpose of this report, Soledad Mountain Road is assumed to oriented north-south and the front of the residence to face west.

The residence is an approximately 1,800 square feet, one-story, wood frame building with attached garage, constructed in 1970. The residence is supported on stem wall footings with a slab-on-fill floor.

The house is situated on a graded lot. At the rear of the building, a steep slope descends approximately 50 feet to (upper) Desert View Drive. The rear of the building is located approximately 12 feet from the top of the slope. There is an elevated wood deck at the north end of the rear patio area, between the house and slope.

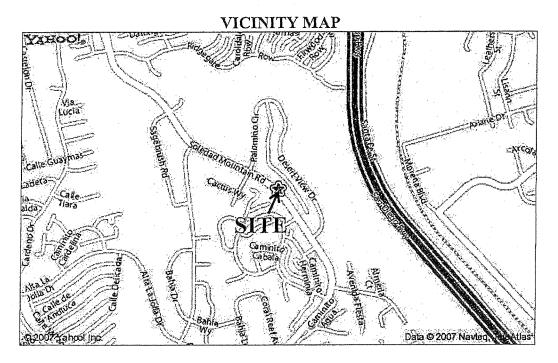
The front yard and concrete driveway slope down to the residence and garage.

RESULTS OF BUILDING AND EXTERIOR INSPECTION

A. Residence

1. Minor wall cracking was observed in the northwest corner of the (northerly) front bedroom, located in the southwest portion of the residence.

- 2. No floor slab cracks were observed. However, floor coverings were not removed during my inspection; hence some slab cracks may exist.
- 3. There are some minor, exterior, stucco wall cracks.
- 4. Minor footing cracks were observed near the northeast corner of the house.
- 5. The west side of the brick chimney has separated from the adjacent wall stucco, about 1 inch.



B. Garage and Driveway

- 1. There is a large, horizontal stucco crack at the base of the exterior wall on the north side of the garage, extending roughly the length of the garage. The crack is up to 1-1/2 inches in width near the northwest corner of the garage. The crack pattern suggests that the northwest corner of the garage has heaved approximately 1-1/2 inches and also that the north side of the garage has moved laterally to the east approximately 1 inch. There are also 1/4 to 3/8-inch wide vertical stucco cracks over the garage side door.
- 2. The garage slab has separated horizontally from the west garage footing (north of the garage door) approximately 1 inch. There is a separation of 1 to 2 inches between the garage slab and the driveway slab.
- 3. The garage slab is relatively undamaged, with only a few, minor cracks.

C. Driveway

A new section of concrete driveway, roughly 3-feet wide, has been constructed at the base of the driveway, adjacent to the garage, about 3-1/2 years ago. The new slab section is also a swale which slopes to a drain inlet near the northwest corner of the garage. Prior to this time, there was reported, periodic flooding in this area. There is a 1 to 2 inch gap between the new driveway section and the adjacent, older driveway. It is not clear how much of this gap is due to lateral slab movement, or is construction-related. There are minor cracks in the new slab section.

D. Rear and Front Patio Areas

There are no signs of lateral soils movement in the rear, brick patio area. A concrete curb and gutter at the top of the slope appears undamaged. The elevated wood deck appears undamaged. There are minor cracks in the front patio slab.

FLOOR LEVEL SURVEY

As part of my inspection, I performed a floor level survey across the residence (living area) and garage floor slabs using a Technidea Ziplevel.

The results of the survey are shown on the attached Figure 1 and reveal that the living area floor slab has a maximum elevation difference of 3.6 inches. The high point is located at the southwest corner of the house, in the main bedroom. The low point is located near the northeast corner of the residence, in the family room. The overall floor tilt is down to the northeast.

The garage floor slab has an elevation difference of 6.0 inches. The high point is located at the northwest corner of the garage. The low point is located at the southeast corner. The upward slope of the garage slab (towards the garage door) is unusual since garage slabs are normally poured with a downward slope, for drainage purposes.

The living area and garage floor elevation differences are both indicative of soils movement. Normal floor level construction tolerance is about 1 inch.

DRAINAGE

Lot and roof drainage are locally poor. The front of the lot and driveway slope down towards the house and garage, where water can pond and infiltrate beneath foundations.

Previous flooding problems were reported adjacent to the garage. A drain inlet has been installed (along with the new driveway section) adjacent to the northwest corner of the garage. The drain inlet reportedly discharges to the rear slope.

There are no roof gutters on the north and south sides of the residence, and water flows off the roof and land next to footings.

SOIL CONDITIONS

The residence appears to be underlain by fill soils which thicken towards the rear of the lot and residence. The fill thickness is not known. Research of construction soils reports and grading plans at the City of San Diego may reveal useful fill and other subsurface soils information. The surface soils are clayey and expansive.

The floor slab also appears to be supported on slab fill soils placed inside stem wall footings.

GEOLOGY AND SEISMICITY

From geologic maps, the site is underlain by sedimentary bedrock of the Ardath Shale Formation. The Ardath Shale is a relatively weak, claystone formation, susceptible to landsliding. There have been previous landslides within the Ardath Shale on steep slopes in the site vicinity. The 1961 Desert View Drive Landslide occurred a few hundred feet south of the property.

The California Division of Mines and Geology Maps show the site to be within Relative Landside Susceptibility Area 4-1, which describes slopes as being "most susceptible" to landsliding or slope failures. The City of San Diego Geologic Hazard Maps show the lot to be within Geologic Hazard Area 25, which denotes "Ardath Shale, neutral or favorable structure", relative to landsliding. The overall potential for landsliding and shallow slope instability is in the moderate range. There are no obvious signs of rear slope instability. The slope is well vegetated, which reduces the potential for shallow slope failures and mud flows.

The property is located approximately 1,200 feet (0.2 miles) southeast of the active Rose Canyon Fault. The residence is susceptible to ground shaking and possible damage from earthquakes on this or more distant, active faults.

WATER PIPE RUPTURES IN STREET

At the time of my inspection, the City of San Diego was repairing water pipe ruptures in Soledad Mountain Road, adjacent to and south of the lot. Three water pipe leaks were reported to have occurred in close succession. Cracks have also developed in the street. In addition, a gas line lateral servicing the subject residence ruptured just prior to my inspection, possibly connected to the water pipe ruptures. The City of San Diego's Senior Engineering Geologist, Robert Hawk, PE was present at the time of my inspection to observe the pipe repairs and street and house damage. At this time, it is not clear if there is a connection between the water pipe ruptures and building damage.

CONCLUSIONS

- 1. Two types of soils movement appear to have occurred beneath the residence and garage. The living area portion of the residence appears to have experienced downwards soils movement, most likely due to differential settlement of underlying fill soils. The amount and direction of settlement is equivalent to the floor elevation difference shown on the attached Figure 1, Floor Level Survey. The magnitude of differential settlement (3.6 inches) is in the moderate range. However, the associated building damage is relatively minor.
- 2. The garage appears to have undergone both downwards and upwards soils movement. At the southeast corner, the garage slab has settled approximately 3 inches, along with the rest of this portion of the residence. At the northwest corner, the garage slab has heaved approximately 3 inches, apparently due to soils expansion. The garage slab uplift is in addition to the garage foundation uplift in this area. (Please note, tree root spreading was also considered as a possible source of uplift, but there are no large trees near the northwest corner of the garage.)
- 3. The driveway slab separations may be construction-related and/or the combined result of soil expansion movement and lateral building movement to the east. Lateral building movement often occurs with differential fill settlement. The chimney/stucco separation is also the result of differential fill settlement.
- 4. Both fill settlement and expansive soils movement are activated by infiltration of surface water. Rainfall and landscape irrigation are the most likely water sources. In this case, poor surface drainage and water ponding near the front of the garage appear to have resulted in increased water infiltration beneath the garage foundations.
- 5. Leaking water and/or sewer pipes can also provide another water source. It is not yet clear if there is a connection between the water pipe ruptures in the street and the garage/driveway damage.
- 6. There are no indications (at this time) of deep-seated landsliding. However, in view of the history of landslide problems in the area, and the recent water pipe ruptures, further site monitoring is advisable.

RECOMMENDATIONS

1. Because of the large amount of vertical soils/foundation movement (6 inches or more), deep foundation repairs to the residence and garage may be necessary. However, prior to formulating foundation repairs, the residence should be monitored for an additional period of at least 6 months (February 2008) to allow further observation of the residence and garage/driveway. At the end of this period, an additional building inspection should be made. A subsurface soils investigation will also be necessary prior to formulating foundation repairs.

- 2. In the meantime, Craftsman Foundation Repair has been retained to patch the garage and driveway slab separations with cement, which will reduce water infiltration into the garage foundation soils, and allow slab movement in this area to be more effectively monitored.
- 3. The surface drain inlet at the front of the garage should be checked to ensure it is operative.

LIMITATIONS

Please note that I have not reviewed any construction plans or documents as part of this inspection, and have performed no subsurface exploration or soils testing. The above conclusions and recommendations are based on my inspection and experience with other similar properties in San Diego County.

This report provides no warranty, either expressed or implied, concerning future building performance. Future damage from geotechnical or other causes is a possibility.

This opportunity to be of service is appreciated. If you have any questions, please do not hesitate to call or contact me.

No. 23155 Exp. 12/31/0

Very truly yours,

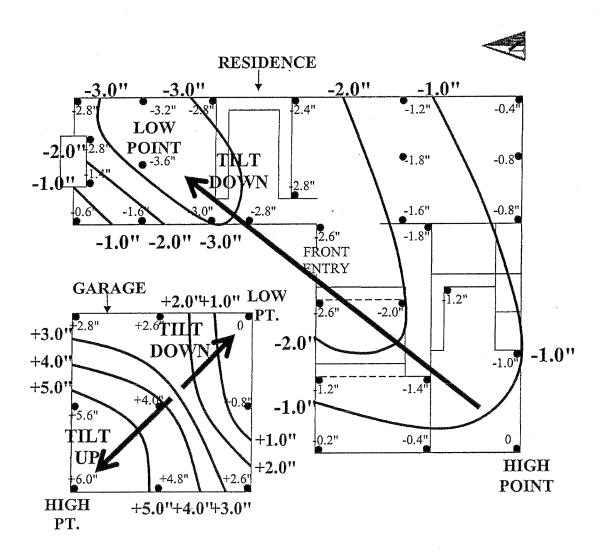
Martin R. Owen PE, GE Geotechnical Engineer

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Attachment: Figure 1, Floor Level Survey

PROFESSIONAL DE LA PROFESSIONAL

FIGURE 1 FLOOR LEVEL SURVEY



LEGEND

+6.0"

RELATIVE FLOOR SURVEY READINGS IN INCHES

+5.0" V

FLOOR ELEVATION CONTOURS IN INCHES

NOTE:

GARAGE SURVEY PERFORMED SEPARATELY. GARAGE IS

ATTACHED TO HOUSE.